



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/465,679	12/17/1999	KENYA UOMORI	0819-321	9166

22204 7590 02/13/2004

NIXON PEABODY, LLP  
401 9TH STREET, NW  
SUITE 900  
WASHINGTON, DC 20004-2128

EXAMINER

VU, NGOC YEN T

ART UNIT	PAPER NUMBER
----------	--------------

2612

DATE MAILED: 02/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/465,679

Applicant(s)

UOMORI ET AL.

Examiner

Ngoc-Yen T. Vu

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 11-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5,6.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 11-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim.

Election was made **without** traverse in Paper No. 8.

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

3. The information disclosure statements, filed 12/17/99, 01/04/02 and 07/01/02, paper No. 4-6, respectively, have been placed in the application file, and the information referred to therein has been considered as to the merits.

### ***Specification***

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2612

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medina (US #5,081,530) in view of Riegl (US #3,830,567).

Regarding claim 1, in figures 1, 2 and 4 Medina '530 teaches a rangefinder for obtaining information about the three-dimensional location of an object by projecting light onto the object and receiving part of the light that has been reflected from the object, the rangefinder comprising:

a light source (11/21/40) for projecting the light on the object (15/16/22);

a camera (13/26/43) for receiving the part of the projected light that has been reflected from the object; and

a controller for controlling exposure conditions of the camera based on range information about the object (col. 2 lines 11-59; col. 3 line 18 – col. 4 line 30; col. 5 lines 3-65).

Claim 1 differs from Medina in that the claim further requires the controller controls optical output power of the light source based on range information about the object. However, the limitation is well known in the art as taught in Riegl. In the same field of endeavor, Riegl '567 teaches a range finder comprising a laser radiation transmitter S, a receiver E and a controller which controls optical output power of the radiation transmitter S (col. 1 line 52 – col. 2 line 4; col. 5 line 48 – col. 7 line 8). Riegl also teaches that the controller controls exposure conditions of a camera based on range information about the object (col. 6 line 58 – col. 7 line 8). In light of the teaching from Riegl, it would have been obvious to one of ordinary skill in the art at the time the invention was made to control optical output power of the light source

Art Unit: 2612

(11/21/40) taught in Medina based on range information about the object in order to obtain good accurate ranging with a relatively low power consumption of the light source.

As to claim 2, Medina teaches a distance-measuring sensor (Fig. 1, phase detector 17; col. 3 lines 18-33) for measuring the distance to the object, wherein the controller uses the output of the distance measuring sensor as an item of the range information about the object.

As to claim 3, Medina, as modified by Riegl, teaches a range calculator for obtaining a range image based on a video signal output from the camera, wherein the controller uses the range image obtained by the range calculator as an item of the range information about the object (Medina, col. 3 line 50 – col. 4 line 30; col. 5 lines 3-55) (Riegl, col. 1 line 40 – col. 2 line 4; col. 5 line 42 – col. 7 line 8).

As to claim 4, Medina, as modified by Riegl, teaches that if the controller has determined based on the range information that the distance to the object is equal to or greater than a first threshold value (Riegl, Fig. 1, threshold A1), the controller increases the optical output power of the light source, and wherein if the controller has determined based on the range information that the distance is equal to or smaller than a second threshold value (A1), the controller decreases the optical output power of the light source (Riegl, col. 3 line 62 – col. 5 line 42).

As to claim 5, Medina teaches that the exposure conditions of the camera are defined based on at least one of a diaphragm stop, a sensitivity of an imager and a shutter speed (Figs. 1-2, shutter 14/24).

As to claim 6, Medina teaches a shutter (Figs. 1-2, shutter 14/24), which can open and close freely and blocks the light that has been projected from the light source when closed,

Application/Control Number: 09/465,679

Art Unit: 2612

wherein the controller selectively controls the open and closed states of the shutter (col. 3 line 50 – col. 4 line 30; col. 5 lines 3-55).

Regarding claim 7, Medina '530 teaches a rangefinder for obtaining information about the three-dimensional location of an object by projecting light onto the object and receiving part of the light that has been reflected from the object, the rangefinder comprising:

a light source (11/21/40) for projecting the light on the object (15/16/22);

a camera (13/26/43) for receiving the part of the projected light that has been reflected from the object; and

a controller for controlling optical output power of the light source and/or exposure conditions of the camera based on information about the level of a video signal output from the camera (col. 2 lines 11-59; col. 3 line 18 – col. 4 line 30; col. 5 lines 3-65).

Claim 7 differs from Medina in that the claim further requires the controller controls optical output power of the light source based on information about the level of a video signal output from the camera. However, the limitation is well known in the art as taught in Riegl. In the same field of endeavor, Riegl '567 teaches a range finder comprising a laser radiation transmitter S, a receiver E and a controller which controls optical output power of the radiation transmitter S (col. 1 line 52 – col. 2 line 4; col. 5 line 48 – col. 7 line 8). Riegl also teaches that the controller controls exposure conditions of a camera based on the level of a video signal output from the camera (col. 6 line 58 – col. 7 line 8). In light of the teaching from Riegl, it would have been obvious to one of ordinary skill in the art at the time the invention was made to control optical output power of the light source (11/21/40) taught in Medina based on range

information about the object in order to obtain good accurate ranging with a relatively low power consumption of the light source

As to claim 8, Medina, as modified by Riegl, teaches that if the controller has determined based on the level information that the distance to the object is equal to or greater than a first threshold value (Riegl, Fig. 1, threshold A1), the controller increases the optical output power of the light source, and wherein if the controller has determined based on the level information that the distance is equal to or smaller than a second threshold value (A1), the controller decreases the optical output power of the light source (Riegl, col. 3 line 62 – col. 5 line 42).

As to claim 9, Medina teaches that the exposure conditions of the camera are defined based on at least one of a diaphragm stop, a sensitivity of an imager and a shutter speed (Figs. 1-2, shutter 14/24).

As to claim 10, Medina teaches a shutter (Figs. 1-2, shutter 14/24), which can open and close freely and blocks the light that has been projected from the light source when closed, wherein the controller selectively controls the open and closed states of the shutter (col. 3 line 50 – col. 4 line 30; col. 5 lines 3-55).


### *Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc-Yen T. Vu whose telephone number is 703-305-4946. The examiner can normally be reached on Mon. – Fri. from 8:00 am to 4:30 pm.

Art Unit: 2612

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R. Garber can be reached on 703-305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.



**NGOC-YEN VU**  
**PRIMARY EXAMINER**  
Art Unit 2612

NYV  
02/05/2004